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Mary J Breiner
Breiner & Breiner
115 North Henry Street
PO Box 19290
Alexandria, VA 22320-0290

EXAMINER

OCAMPO, MARIANNE S

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 05/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,946

Applicant(s)

MALECOT ET AL.

Examiner

Marianne S. Ocampo

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-23 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-23 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 15 April 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Withdrawal of Finality of Last Office Action

1. The proposed amendment after final filed on 4-15-03 has been considered by the examiner and been entered on record. The finality of the last office action (Paper no. 10) is hereby withdrawn. The following rejections based on newly found prior art, namely, Suzuki (US 4,454,036) and Harvuot (US 2,512,797), are as follows.

Drawings

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, particularly of Figure 1, filed on 4-15-03 with the amendments after final (Paper no. 12), have not been approved. It was not approved since it does not reflect what the specification described as the polarizing positioning means, which are disclosed to be "small salient or hollow devices to position the filter element in a manner that it (filter element/medium, 14) assumes a defined position **within the case** (indicated as reference number 12), see page 9, amended paragraph (amended on 4-15-03), lines 1 - 5. The examiner believes that the outside cylindrical surfaces of the filter element, is not actually the outside surface of the case/casing (12), but on the outside peripheries of the tubular cylinder/filtering medium (14). If applicants intended the proposed figure 1 to be accurate, the description provided according to the specification, in particular, the

amended paragraph of page 9 is therefore unclear and confusing. *How could a notch/groove/stud placed on an outer surface of a casing positions or polarizes the filter element within the case/casing (12)?* Applicants are also invited to contact the examiner if this objection needs further clarification. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13 - 15, 18 - 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 4,454,036) in view of Harvuot (US 2,512,797).

5. With regards to claim 13, the examiner has considered the claimed invention to be a subcombination of a filter element which includes a filter medium comprising an absorbent tissue paper wound compactly into a tubular cylinder and a cylindrical casing, and not including

a filter system. The intended use "for filtering a fluid in a filter system" is not given any patentable weight by the examiner. An intended use clause found in the preamble of an apparatus claim is not afforded the effect of a distinguishing limitation unless the body of the claim sets forth structure which refers back to, is defined by, or otherwise draws life and breadth from the preamble. See In re Casey, 152 USPQ 235 (CCPA 1967); Kropa v. Robie, 88 USPQ 478 (CCPA 1951). Thus, a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. See Kropa v. Robie, supra et 480. See also Ex Parte Mott, 190 USPQ 311, 313 (PTO Board of App. 1975). Suzuki discloses a filter element (1) for filtering a fluid (such as oil) in a filter system, comprising a cylindrical case (8) and the filter element (1) comprising an *absorbent* (this term has been defined by examiner to be capable of absorbing/removing water and filtering fine particles) tissue paper material (1a) in sheet form compactly wound to form inner winding turns therein and to constitute a tubular cylinder inside the cylindrical case (8) in a manner to partition an outer radial part from an inner radial part (bounded by member 1b), wherein the fluid is able to move across the filter element (1) in a substantially centripetal direction (i.e. radially across towards the center of the element 1), as in figs. 1 - 2 and cols. 2 - 5. Suzuki fails to disclose the filter element being devoid of a central core and the inner windings exhibiting a contour which prevents the inner windings turns from unraveling inward. Harvuot teaches a filter element, similar to that of Suzuki, formed of a water absorbent tissue (cellulose) paper in sheet form compactly wound to form inner winding turns and form into a tubular cylinder (1) wherein the

filter element is devoid of a central core and the inner winding turns exhibiting a cylindrical contour (shape) and having a loose end thereof which is being wetted to provide a sticky strip to wind and to join to itself to form a joint, which prevents the inner winding turns from unraveling inward, as in cols. 1 - 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter element of Suzuki by substituting the filter element/medium (1, not including the casing) of Suzuki, in lieu of the coreless filter element (1) taught by Harvout, in order to provide an alternative but as effective filtering element for the filtration of fluids (such as oil, gasolines, etc), which is more inexpensive to manufacture and easily discarded compared to those conventional (with a central core/tube/rod) filter elements. The coreless filter element of Harvuot is also more biodegradable (since it is only made of paper and there is no central core/tube/rod which is usually made of a perforated metal or plastic material), and less expensive to manufacture since there would be no costs for a central tube/cardboard/rod/core necessary to make them.

6. Concerning claims 14 - 15, Harvuot further teaches the tubular cylinder (1) having a mean inside diameter greater than $1/20$ of a mean outside diameter of the tubular cylinder (claim 14) and the mean inside diameter being greater than $1/4$ of the mean outside diameter, in particular, the mean inside diameter of the cylinder (1) is approximately $3/4$ of the mean outside diameter of the cylinder (1), as in figs. 1 - 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to form the mean inside diameter of the tubular cylinder to have a value which is sufficient to effectively filter and absorb unwanted constituents of a fluid,

without collapsing, which when optimized could be in a range of values greater than $1/20$ of the mean outside diameter, and/or have a value greater than $1/4$ of the mean outside diameter. The case law, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) has provided that "The discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art, and thus a prima facie case of obviousness is established."

In this instance, the optimum value of the mean inside diameter (i.e. result effective variable in this particular endeavor) is in the range of values greater than $1/20$ of the mean outside diameter, or greater than $1/4$ of the mean outside diameter, where the tubular cylinder is considered effective and dimensionally stable to handle filtration conditions (i.e. pressure drops and clogging).

7. With regards to claim 18, Suzuki as modified by Harvuot, also teach the tubular cylinder having an inside wall which is cylindrical and has a circular cross-sectional shape, as in figs. 1 – 2 of Harvuot. The case law, *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), provided (The court held) that the configuration of the claimed invention such as a disposable plastic nursing container (in this instance, the tubular cylinder forming the filter element) was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration (i.e. cylindrical and/or conical inside wall and a circular/polygonal cross-sectional shape) of the claimed invention was significant.

8. Concerning claim 19, Suzuki also discloses the filter element further comprising at least one polarizing positioning means, in the form of a cap (6) and spring (7), which can serve to

position the filter element (1) in a manner that the filter element (1) assumes a defined position within the case (8), as in fig. 2.

9. Regarding claim 20, Suzuki, as modified by Harvuot, further teach the absorbent paper material being a strip which is a continuous single sheet wound to provide the tubular cylinder, as in col. 2 of Suzuki and/or cols. 1 – 2 of Harvuot.

10. Claim 21 is considered a product by process claim. The patentability of a product (i.e. the filter element formed by the absorbent paper formed into a tubular cylinder) by process claim is based upon the product itself, even though the claim is limited and defined by process (i.e. the absorbent paper being formed or comprised of series of sheets interlaced to form the tubular cylinder), and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966. Here, the examiner considered the absorbent paper cylinder (toilet paper roll) formed by a series of sheets interlaced rolled or wound into a tubular cylinder is an obvious variant of the absorbent paper cylinder formed by a continuous sheet of toilet paper material taught by the prior art, Suzuki as modified by Harvuot above.

11. With respect to claim 25, it is unclear if the applicants wish to include as the claimed invention a filter system in combination with the filter element claimed in claim 13, or not. For

examination purposes, the examiner has considered this claim to be claiming a combination of the filter system and the filter element in claim 13. Suzuki also discloses the filter system being constructed and arranged to filter automotive (motor car) engine oil, in particular, lubricating oils, as in cols. 1 - 2 of Suzuki.

12. Claims 13 - 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 4,454,036) in view of Harvuot (US 2,512,797) and Kobayashi (US 4,487,378).

13. With regards to claim 13, the examiner has considered the claimed invention to be a subcombination of a filter element which includes a filter medium comprising an absorbent tissue paper wound compactly into a tubular cylinder and a cylindrical casing, and not including a filter system. The intended use "for filtering a fluid in a filter system" is not given any patentable weight by the examiner. An intended use clause found in the preamble of an apparatus claim is not afforded the effect of a distinguishing limitation unless the body of the claim sets forth structure which refers back to, is defined by, or otherwise draws life and breadth from the preamble. See In re Casey, 152 USPQ 235 (CCPA 1967); Kropa v. Robie, 88 USPQ 478 (CCPA 1951). Thus, a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. See Kropa v. Robie, supra et 480. See also Ex Parte Mott, 190 USPQ 311, 313 (PTO Board of App. 1975).

Suzuki discloses a filter element (1) for filtering a fluid (such as oil) in a filter system, comprising a cylindrical case (8) and the filter element (1) comprising an *absorbent* (this term has been defined by examiner to be capable of absorbing/removing water and filtering fine particles) tissue paper material (1a) in sheet form compactly wound to form inner winding turns therein and to constitute a tubular cylinder inside the cylindrical case (8) in a manner to partition an outer radial part from an inner radial part (bounded by member 1b), wherein the fluid is able to move across the filter element (1) in a substantially centripetal direction (i.e. radially across towards the center of the element 1), as in figs. 1 – 2 and cols. 2 – 5. Suzuki fails to disclose the filter element being devoid of a central core and the inner windings exhibiting a contour which prevents the inner windings turns from unraveling inward. Harvuot teaches a filter element, similar to that of Suzuki, formed of a water absorbent tissue (cellulose) paper in sheet form compactly wound to form inner winding turns and form into a tubular cylinder (1) wherein the filter element is devoid of a central core and the inner winding turns exhibiting a cylindrical contour (shape) and having a loose end thereof which is being wetted to provide a sticky strip to wind and to join to itself to form a joint, which prevents the inner winding turns from unraveling inward, as in cols. 1 – 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter element of Suzuki by substituting the filter element/medium (1, not including the casing) of Suzuki, in lieu of the coreless filter element (1) taught by Harvuot, in order to provide an alternative but as effective filtering element for the filtration of fluids (such as oil, gasolines, etc), which is more inexpensive to manufacture and easily discarded compared to those conventional (with a central core/tube/rod) filter elements. The coreless filter element of

Harvuot is also more biodegradable (since it is only made of paper and there is no central core/tube/rod which is usually made of a perforated metal or plastic material), and less expensive to manufacture since there would be no costs for a central tube/cardboard/rod/core necessary to make them.

14. Alternatively, if the term/limitation "**contour**" which prevents inner winding turns from unraveling inward" in claim 13, is being limited to a particular shape, according to the specification, found in the last 6 lines of page 6, which is *constituted by convex surface segments joined by turning points having folding marks (i.e. star-shaped cross-section* as in fig. 2 of the disclosure), Suzuki as modified by Harvuot fail to teach such a contour (i.e. *constituted by convex surface segments joined by turning points having folding marks, i.e. star-shaped cross-section*). Kobayashi teach a similar coreless tissue paper roll element which is capable of being used as a filter element, which is formed by winding compactly toilet/tissue paper to form inner winding turns (such as shown in figs. 4, 7 – 8 & 17) therein to form a tubular cylinder wherein the tubular cylinder is also devoid of a central core, similar to the filter element of Suzuki as modified by Harvout, and the inner winding turns exhibiting a contour which prevents the inner winding turns from unraveling inward and in addition to having a loose end being wetted with an adhesive to form a joint with an inner winding turn thereof, as in cols. 1 – 8. It is considered obvious to one of ordinary skill in the art to modify the filter element formed of toilet/tissue paper (i.e. tubular cylinder of toilet paper) of Suzuki as modified by Harvuot, by substituting it in lieu of one taught by Kobayashi, in order to provide an alternative and improved

design/configuration for the coreless filter element which has a center hole (formed by the contour) which is rigid and safe from collapse, as in the abstract of Kobayashi.

15. Concerning claims 14 - 15, Harvuot further teaches the tubular cylinder (1) having a mean inside diameter greater than $1/20$ of a mean outside diameter of the tubular cylinder (claim 14) and the mean inside diameter being greater than $1/4$ of the mean outside diameter, in particular, the mean inside diameter of the cylinder (1) is approximately $3/4$ of the mean outside diameter of the cylinder (1), as in figs. 1 - 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to form the mean inside diameter of the tubular cylinder to have a value which is sufficient to effectively filter and absorb unwanted constituents of a fluid, without collapsing, which when optimized could be in a range of values greater than $1/20$ of the mean outside diameter, and/or have a value greater than $1/4$ of the mean outside diameter. The case law, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) has provided that "The discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art, and thus a prima facie case of obviousness is established."

In this instance, the optimum value of the mean inside diameter (i.e. result effective variable in this particular endeavor) is in the range of values greater than $1/20$ of the mean outside diameter, or greater than $1/4$ of the mean outside diameter, where the tubular cylinder is considered effective and dimensionally stable to handle filtration conditions (i.e. pressure drops and clogging).

16. Concerning claim 16, Suzuki as modified by Harvuot and Kobayashi, also teach the tubular cylinder having a mean inside diameter being greater than $\frac{1}{4}$ the mean outside diameter, being between $\frac{1}{3}$ and $\frac{1}{2}$ the mean outside diameter, in the embodiment shown in Fig. 17 of Kobayashi. It is considered obvious to one of ordinary skill in the art that the value for the mean inside diameter of the filter element/paper roll would be a result effective variable, dependent upon the degree of strength of the windings for preventing collapse or unraveling inward, as well as the amount (number) of windings to form the tubular cylinder which is dependent upon the amount/number of layers needed to perform the filtration and achieve desired purity/cleanliness of the fluid being filtered.

17. With respect to claim 17, Suzuki as modified by Harvuot and Kobayashi, further teach the mean inside diameter of the cylinder could be formed such that it is greater than 25 mm, as in col. 10, lines 52 – 54 of Kobayashi. The same motivation used in claim 16 above is applied here.

18. With regards to claim 18, Suzuki as modified by Harvuot, also teach the tubular cylinder having an inside wall which is cylindrical and has a circular cross-sectional shape, as in figs. 1 – 2 of Harvuot. The case law, *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), provided (The court held) that the configuration of the claimed invention such as a disposable plastic nursing container (in this instance, the tubular cylinder forming the filter element) was a matter of choice which a person of ordinary skill in the art would have found obvious absent

persuasive evidence that the particular configuration (i.e. cylindrical and/or conical inside wall and a circular/polygonal cross-sectional shape) of the claimed invention was significant.

19. Concerning claim 19, Suzuki also discloses the filter element further comprising at least one polarizing positioning means, in the form of a cap (6) and spring (7), which can serve to position the filter element (1) in a manner that the filter element (1) assumes a defined position within the case (8), as in fig. 2.

20. Regarding claim 20, Suzuki, as modified by Harvuot, further teach the absorbent paper material being a strip which is a continuous single sheet wound to provide the tubular cylinder, as in col. 2 of Suzuki and/or cols. 1 – 2 of Harvuot.

21. Claim 21 is considered a product by process claim. The patentability of a product (i.e. the filter element formed by the absorbent paper formed into a tubular cylinder) by process claim is based upon the product itself, eventhough the claim is limited and defined by process (i.e. the absorbent paper being formed or comprised of series of sheets interlaced to form the tubular cylinder), and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966. Here, the examiner considered the absorbent paper cylinder (toilet paper roll) formed by a series of sheets interlaced rolled or wound into a tubular cylinder is an obvious variant of the absorbent

paper cylinder formed by a continuous sheet of toilet paper material taught by the prior art, Suzuki as modified by Harvuot and Kobayashi above.

22. With respect to claim 25, it is unclear if the applicants wish to include as the claimed invention a filter system in combination with the filter element claimed in claim 13, or not. For examination purposes, the examiner has considered this claim to be claiming a combination of the filter system and the filter element in claim 13. Suzuki also discloses the filter system being constructed and arranged to filter automotive (motor car) engine oil, in particular, lubricating oils, as in cols. 1 – 2 of Suzuki.

23. Claims 22 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki, Harvuot and Kobayashi, as applied to claim 13 above, and further in view of Whiteside (GB 2,150,456).

24. Regarding claim 22, Suzuki as modified by Harvuot and Kobayashi, fail to teach the sheet of absorbent tissue paper material comprising *several plies* (defined here to mean “at least two or more than one ply”). Whiteside teaches a similar filter element comprising at least a sheet of an absorbent two-ply tissue paper being wound into a roll/tubular cylinder to form the filter element, as in page 1. It is considered obvious to one of ordinary skill in the art to modify the sheet of toilet/tissue paper material of Suzuki, as modified by Harvuot and Kobayashi such that each sheet has several plies (at least two plies) of tissue paper, in order to provide a stronger

tissue paper which can withstand greater pressure and other filtration conditions in the filtration applications and also provide a greater (depth) filtration surface area.

25. Concerning claim 23, claim 23 is considered a product by process claim. The patentability of a product (i.e. the filter element formed by the absorbent paper formed into a tubular cylinder) by process claim is based upon the product itself, even though the claim is limited and defined by process (i.e. the absorbent paper being formed or **comprised of series of sheets interlaced to form the tubular cylinder**), and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. See *In re Thorpe, et al.*, No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966. Here, the examiner considered the absorbent paper cylinder (toilet paper roll) formed by a series of sheets interlaced rolled or wound into a tubular cylinder, wherein each sheet is comprised of several plies, is an obvious variant of the absorbent paper cylinder formed by a continuous sheet of toilet paper material rolled into a tubular filter element (in claim 22), taught by the prior art, Suzuki as modified by Harvuot, Kobayashi and Whiteside above.

Response to Arguments and Amendments

26. Applicant's amendments and arguments filed on 4-15-03, with respect to claims 13 – 23 and 25 have been considered but are moot in view of the new grounds of rejection presented above.

27. **This action is non-final.**

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 3,572,509 (Dexter), 5,178,753 (Trabold), 3,504,803 (Brayman) and 4,017,400 (Schade).

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

31. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

MSO
M.S.O.
April 28, 2003

Walker
W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700